

AMENDMENTS TO THE CLAIMS

Please amend the claims in the above-identified patent application as set forth below.

1. (canceled)

2. (canceled)

3. (canceled)

4. (canceled)

5. (canceled)

6. (canceled)

7. (canceled)

8. (canceled)

9. (new) A power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, comprising:

an asymmetrical u-shaped, circular seal body having an inner wall portion, an outer wall portion and a seat portion, wherein said inner wall portion and said outer wall portion each have a section of equal length and said outer wall portion having an extended length section;

said seat portion being perpendicularly affixed to a lower end of the inner wall portion and a lower end of the outer wall portion,

wherein said inner wall portion and said outer wall portion are affixed to said seat portion whereby the axial alignment of the inner wall portion is parallel with respect to the axial alignment of the outer wall portion;

an open, asymmetrical u-shaped channel portion being defined by an outer diameter surface of the inner wall portion, an inner diameter surface of the outer wall portion and a top surface of the seat portion;

a plurality of ribs, each of said ribs being mounted within said open, asymmetrical u-shaped channel portion, wherein each of said plurality of ribs is tangentially attached to the equal length section of the outer diameter surface of the inner wall portion and the equal length section of the inner diameter surface of the outer wall portion, and wherein a bottom surface of each of said ribs is attached to the top surface of the asymmetrical u-shaped channel portion, whereby the equal length section of the inner wall portion and the equal length section of the outer wall portion and the extended length section of the outer wall portion can selectively expand and selectively contract in relation to the forces being applied to said seal body;

an inner diameter composite dynamic seal, wherein said dynamic seal is structurally formed within an inner diameter wear surface of said inner wall portion;

an outer diameter rubber static seal, wherein said static seal includes an outer diameter surface of the outer wall portion and a bottom surface of the seat portion; and

a first radially extending lip profile affixed to an inner diameter surface of an upper end of said inner wall portion and a second radially extending lip profile affixed to an outer diameter surface of an upper end of said outer wall portion, such that the asymmetrical u-shaped, circular seal body includes the first lip profile affixed to the upper end of the inner composite dynamic seal and a second lip profile being affixed to the upper end of the extended section of the outer rubber static seal.

10. (new) The power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, as defined in claim 9, wherein the composite wear surface is disposed on said inner wall portion of the asymmetrical u-shaped, circular seal body between the first lip profile of the inner wall portion and the seat portion of the seal body.
11. (new) The power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, as defined in claim 9, wherein the composite wear surface is comprised of PTFE.
12. (new) The power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, as defined in claim 9, wherein the composite wear surface is comprised of bronze filled PTFE.

13. (new) The power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, as defined in claim 9, wherein the composite wear surface is comprised of carbon filled PTFE.

14. (new) The power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, as defined in claim 9, wherein the composite wear surface is comprised of aramid fiber filled HNBR.

15. (new) A power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, comprising:

an asymmetrical u-shaped, circular seal body having an inner wall portion, an outer wall portion and a seat portion, wherein said inner wall portion and said outer wall portion each have a section of equal length and said outer wall portion having an extended length section disposed from said equal length section;

said seat portion being perpendicularly affixed to a lower end of the inner wall portion and a lower end of the outer wall portion, wherein said inner wall portion and said outer wall portion are affixed to said seat portion whereby the axial alignment of the inner wall portion is parallel with respect to the axial alignment of the outer wall portion;

an open, asymmetrical u-shaped channel portion being defined by an outer diameter surface of the inner wall portion, an inner diameter surface of the outer wall portion and a top surface of the seat portion;

a plurality of ribs, each of said ribs being mounted within said open, asymmetrical u-shaped channel portion, wherein each of said plurality of ribs is tangentially attached to the equal length section of the outer diameter surface of the inner wall portion and the equal length section of the inner diameter surface of the outer wall portion, and wherein a bottom surface of each of said ribs is attached to the top surface of the asymmetrical u-shaped channel portion, such that the equal length section of the inner wall portion and the equal length section of the outer wall portion and the extended length section of the outer wall portion can selectively expand and selectively contract in relation to the forces being applied to said seal body;

a first radially extending lip profile affixed to an inner diameter surface of an upper end of said inner wall portion and a second radially extending lip profile affixed to an outer diameter surface of an upper end of said outer wall portion;

an inner diameter composite dynamic seal, wherein said dynamic seal is structurally formed within an inner diameter wear surface of said inner wall portion, whereby the composite wear surface is disposed on said inner wall portion of the asymmetrical u-shaped, circular seal body between said first lip profile of the inner wall portion and the seat portion of the seal body; and

an outer diameter rubber static seal, wherein said static seal includes an outer diameter surface of the outer wall portion and a bottom surface of the seat portion, whereby the asymmetrical u-shaped,

circular seal body includes the first lip profile affixed to the upper end of the inner composite dynamic seal and a second lip profile being affixed to the upper end of the extended section of the outer rubber static seal.

16. (new) The power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, as defined in claim 15, wherein the composite wear surface is comprised of PTFE.
17. (new) The power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, as defined in claim 15, wherein the composite wear surface is comprised of bronze filled PTFE.
18. (new) The power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, as defined in claim 15, wherein the composite wear surface is comprised of carbon filled PTFE.
19. (new) The power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, as defined in claim 15, wherein the composite wear surface is comprised of aramid fiber filled HNBR.
20. (new) A power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, comprising:
an asymmetrical u-shaped, circular seal body having an inner wall portion, an outer wall portion and a seat portion, wherein said inner wall portion and said outer wall portion each have a section of equal length and said outer wall portion having an

extended length section disposed from said equal length section;

said seat portion being perpendicularly affixed to a lower end of the inner wall portion and a lower end of the outer wall portion, wherein said inner wall portion and said outer wall portion are affixed to said seat portion whereby the axial alignment of the inner wall portion is generally parallel with respect to the axial alignment of the outer wall portion;

an open, asymmetrical u-shaped channel portion being defined by an outer diameter surface of the inner wall portion, an inner diameter surface of the outer wall portion and a top surface of the seat portion;

a plurality of ribs, each of said ribs being mounted within said open, asymmetrical u-shaped channel portion, wherein each of said plurality of ribs is tangentially attached to the equal length section of the outer diameter surface of the inner wall portion and the equal length section of the inner diameter surface of the outer wall portion, and wherein a bottom surface of each of said ribs is attached to the top surface of the asymmetrical u-shaped channel portion, such that the equal length section of the inner wall portion and the equal length section of the outer wall portion and the extended length section of the outer wall portion can selectively expand and selectively contract in relation to the forces being applied to said seal body;

a first radially extending lip profile affixed to an inner diameter surface of an upper end of said inner wall portion and a second radially extending lip profile affixed to an outer diameter surface of an upper end of said outer wall portion;

an inner diameter composite dynamic seal, wherein said dynamic seal is structurally formed within an inner diameter wear surface of said inner wall portion and is disposed on said inner wall portion of the asymmetrical u-shaped, circular seal body between said first lip profile of the inner wall portion and the seat portion of the seal body; and

an outer diameter rubber static seal, wherein said static seal includes an outer diameter surface of the outer wall portion and a bottom surface of the seat portion, whereby the asymmetrical u-shaped, circular seal body includes the first lip profile affixed to the upper end of the inner composite dynamic seal and a second lip profile being affixed to the upper end of the extended section of the outer rubber static seal.

21. (new) The power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, as defined in claim 20, wherein the composite wear surface is comprised of PTFE.

22. (new) The power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, as defined in claim 20, wherein the composite wear surface is comprised of bronze filled PTFE.

23. (new) The power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, as defined in claim 20, wherein the composite wear surface is comprised of carbon filled PTFE.

24. (new) The power end seal for use in sealing gear boxes of heavy duty reciprocating pumps, as defined in claim 20, wherein the composite wear surface is comprised of aramid fiber filled HNBR.